THE IMPACT OF MACROECONOMIC DEVELOPMENTS ON EXPORTS OF THE CENTRAL AND EASTERN EUROPEAN COUNTRIES

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Abstract: *Because of the financial crisis of 2007-2009 and of the Covid pandemic, the international trade was significantly hit in terms of export flows. The whole macroeconomic context was negatively impacted during those last crises. In this paper we aimed to analyse the correlations between the trends of macroeconomic variables during the last decade and the exports of the Central and Eastern European countries. The selected macroeconomic variables are those that are significantly related to the foreign trade, namely GDP growth, inflation, public debt, public deficit, interest rate and labour productivity. These variables display a high correlation with the foreign trade expressed as exports and imports. But the correlations are not the same for all CEE countries. During crises periods, these correlations often change and each country of this CEE region reacts differently to specific external shocks. Trade was significantly and negatively impacted by the last financial crisis and by Covid pandemic crisis, while economic growth rates, inflation rates, labour productivity public finances and interest rates have different trends in the CEE region according to specific conditions of each country and the measures adopted by the national authorities in time of crises. Based on the correlations between the trends of the macroeconomic variables and the developments of exports in this area, we can design some important policy recommendations for the economic policy which needs to be implemented in those countries to overcome these difficulties generated by the increasing commercial deficits during the last decade.*

Keywords: *CEE countries, exports, inflation, economic growth, labour productivity, public deficit, public debt*

JEL classification: *E00*

1. Introduction

The economy of a state is defined as a permanent connection with foreign markets, a connection achieved through the mechanism of commercial exchanges. Regardless of the level of development of a state, or its size, the difference between exports and imports is closely interdependent with the level of internal prices, the exchange rate, the GDP, the public debt, so with the macroeconomic balance as a whole. Mentioning the aspect of macroeconomic balance, I want to higlight the understanding of the effects of macroeconomic variables on the trade deficit of a state. As for the states of Central and Eastern Europe, their trade deficit was directly influenced by FDI, especially in the first decades of transition, but also by other macroeconomic variables such as inflation, the evolution of the real exchange rate, the rate of increase in real GDP, public debt or labour productivity. While some CEE states have based their economic growth on exports (Czech Republic), other CEE states (Romania, Bulgaria) have based their robust economic growth rates on consumption (especially private), at the same time recording large trade deficits throughout the period after 1990 until now. In this paper we have analysed the correlations among exports developments of the CEE countries and some important macroeconomic variables that can impact on foreign trade.

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2. Literature review

Placing Romania as a Central and Eastern European state at the center of the study, we have as a starting point the instance of its trade deficit from the last 30 years. Although we are facing a difficult period from a multiple perspective, generated by the pandemic, we can state that Romania's trade deficit has also increased during this period, reaching the historical maximum since 2009, a year marked by the global financial crisis. The value recorded in May 2021 is 2.25 million euros compared to 2.54 million euros, the average value of the last decades. Emerging from the communist regime, Romania occupied the position of a state in continuous change and development. The explosion of consumption that determined the significant economic growth generated by itself a substantial increase in imports, which led to a considerable increase in the trade deficit. The ever-increasing consumer demand could not be satisfied by domestic producers, to all of which was added the increase in wages and remittances, the effect being none other than the satisfaction of these requests by importers. Over the past decade imports have grown exponentially year on year, while exports of finished products have declined which has surely led to a notable trade deficit.

Although we can say that Romania's geographical position is a prolific one, exports and imports have manifested themselves distinctly, under the conditions of the poorly developed economy, resulting in an increase in the trade deficit.

The rapid increase in imports, due to the economic performances achieved by Romania's main commercial partners, was not the only element that led to the formation of the trade deficit, the increase in consumption being an element of equal importance.

Turning our attention to the consumption of the population, we find that it increased together with transfers from abroad, which had as a reminiscence the devaluation of the national currency, which causes the recording of losses when exchanging the income acquired from the sale of goods with their partners from third countries. The low growth rate of exports equally accentuates the deficit in Romania's trade balance. Taking into account the current context of the pandemic, the trade deficit is a natural result of the turbulences arising at the level of the European Union. Certainly, the increase in the trade deficit will alter the current account of Romania's balance of payments in the following period. The major risks of the increase in the current account deficit are represented by the evolution of the trade deficit, the current dynamics of transfers and the exacerbated appreciation of the currency.

The existence of a relationship between the components of the balance of payments and the exchange rate has been a subject extensively treated by many specialists in the field. Alfred Marshall, Abba Lerber and Joan Robinson (2010) are among the first to analyze the relationship between the exchange rate and the trade balance situation. Their concepts are called the Marshall-Lerner Conditions. They carried out an analysis on how a devaluation (in the case of the fixed exchange rate regime) or a real depreciation (in the case of floating the exchange rate) can positively influence the balance of payments situation, stimulating exports.

However, their theoretical meanings are considered inconclusive. Researchers such as Cooper (1971), Gylfason, Risager (1984) demonstrated that the depreciation of the national currency leads to the improvement of the balance of payments situation. Laffer is one of the economists who show that this relationship is only applicable for certain countries and for certain periods of time, proving that there is no significant connection between the trade balance and the exchange rate, valid at any time and in any country.

Krugman and Baldwin (2010) succeeded in introducing the J-Curve into the specialized theory. Their research uses data specific to the European and American economies and shows that a negative monetary shock leads to the reduction of GDP for about half a year, generating currency appreciation for the same period, so that a trade balance surplus of one and a half years is reached, after which a trade deficit follows. The J-curve theory substantiates the understanding that the positive effects of currency devaluation on the balance of external payments do not manifest themselves immediately but after a certain period of time. According to the "J-curve", if the national currency is devalued, then imports

increase due to the influence of import prices, even if the quantity does not change. With the passage of time, imports decrease and exports increase, with positive effects on balancing the trade balance. These positive effects can be manifested in certain conditions such as: increasing the competitiveness of goods, expanding commercial relations with other partners, developing production capacities for transport, transferring the supply of products from one market to another.

Economists Bruno Coric and Geoff Pugh (2008) argue that the volatility of the exchange rate produces negative effects regardless of the sense in which they manifest. Joseph Byrne (2008) noted that the surplus external balance of payments leads to the appreciation of the exchange rate, and the deficit situation influences the national currency in the sense of its depreciation.

The results of a study by the Central Bank of Iceland (2000) showed that an increase in the budget deficit is associated with an increase in inflation rates. This association led to the adoption of higher interest rates and a deflationary fiscal policy to control the situation and reach a safe economic environment, which in the long run worsened the trade balance. Alkhatib (2006) attempted to prove the hypothesis that export growth is Jordan's growth valve using monthly data for the period (1997-2003) and the results of his study supported this hypothesis.

Imbalances will inevitably affect the economy and other economic variables. Some economists emphasized that economic growth depends on the quality of economic policies, the financial development of markets, foreign aid, the evolution of the exchange rate and the situation of the components of the balance of payments. Inflation rate is also affected by international economic factors and local economic factors such as economic policy and exchange rate system, financial system and economic integration (Klaus and Hebbel, 2010).

Rawahneh (2011) studied inflation dynamics in Jordan during the period (2000-2010). The study aimed to examine the most important internal and external factors affecting inflation dynamics in Jordan using quarterly data. The study found that short-term local inflation dynamics are proportionally determined by imported inflation, domestic exports, workers' remittances, external shocks and credit facilities. An adverse effect of GDP growth on short-term inflation dynamics has also been demonstrated. Other studies have found that economic and trade openness weakens controls on money supply growth and local inflation. They also highlighted the significant and positive impact of international trade, fiscal and economic openness and foreign aid on economic growth (Chude and Chude, 2015).

We can state that economic variables such as inflation and economic growth tend to be significantly affected by changes in balance of payments components. At the same time, these elements are affected by other conditions and external economic factors. For example, Alawin and Oqaily (2017), in their study demonstrated that a global increase in oil prices increases the import bill and since the economy is highly dependent on imports of petroleum products, this leads to an account deficit high current and then to an increase in the local price level.

Compared to European Union countries and the world average, the trade deficit in countries like Jordan is not caused by a high level of imports per capita, but by a low level of exports per capita. Guisan (2014) and Sandri (2016) state that it is important to keep in mind that industrial development is extremely important for a less developed state to reach convergence with the world average or the most advanced countries. One of the most important ways to reduce trade deficits is industrial growth, the development of exports per capita. We must take into account that imports of complementary products also have a positive impact on economic development, but to be sustainable (avoid trade deficits) the increase in imports per capita should be accompanied by an increase in industrial production.

Zaman et al. (2011) show through the analysis of statistical data that, in Romania, only FDI attracted in the manufacturing industry (machines, means of transport, metallurgy) and in agriculture generated a positive foreign trade balance, while FDI attracted in trade and in the extractive industry generated a strong negative balance in foreign trade. This fact can be explained by the fact that in this sector Romania imports goods with high added value and exports products with a low degree of processing. Other studies (Mishal and Abulaila, 2007) showed that there is a bi-directional relationship

between FDI, export and import. Certain studies have shown that, overall, the impact of FDI on exports and imports is negative, that is, companies with foreign capital import more than they export (Borensztein et al., 1998).

Popovici (2018) pointed out whether the contribution of FDI to export growth or export performance is mainly explained by domestic efforts. In this sense, it used a dynamic panel data using the GMM approach in the EU Member States from 1999 to 2012. Compared to other similar studies, this analysis verifies the differences in the impact of FDI on trade in both goods and of services. The sample of countries was also divided into two groups: the new EU Member States, which have a common history of economic transition, and the old EU Member States, usually the most developed in the EU.

Although CEE countries experienced significant increases in FDI and exports after the 1990s, and even more so after joining the EU, their performance is not comparable to that of Western Europe. Both foreign and domestic investments have a positive impact on exports recorded in the following year. He used as independent variables the exchange rate, the domestic capital, FDI, the labor cost index, the freedom of trade and the previous evolution of exports.

Mahmoodi and Mahmoodi (2016) examined the causal relationship between FDI, exports and economic growth in eight developing European countries for the period 1992-2013 and eight developing Asian countries for the period 1986-2013. Unit root tests were applied for the variables used and demonstrated that they are integrated of the first order. Moreover, panel cointegration tests support the existence of cointegration in both samples. Panel causality was performed for both groups of countries by VECM (vector error correction), which indicated a unidirectional causality from GDP and FDI to exports in the short run for European developing countries.

There is evidence of long-term causality between economic growth, respectively export and FDI for both European and Asian development groups. Countries in the two groups considered, especially the European ones, can stimulate and promote economic growth by attracting FDI flows, which can be possible, for example, by expanding free trade areas, increasing security from an economic, political and not only. Moreover, countries belonging to both panels, especially developing Asian countries, may experience higher economic growth through increased exports of goods and services. They can reduce export taxes and trade barriers, encourage exports from industrial sectors, and improve training and quality control programs.

Leichenko and Erickson (1997) assess the impact of foreign direct investment on trade in the US regional manufacturing sector from 1980 to 1991. FDI has a positive and significant impact only when metal products, industrial machinery and electronics, and other manufactures are considered, while the previous value of exports is significant in all cases. A one percent increase in FDI generates an average increase of 0.14 percent in the volume of exports in the manufacturing sector in the following year.

Camarero and Tamarit (2004) study the relationship between foreign trade in manufactured goods (both exports and imports) and FDI inflows and outflows. The authors use a panel of data for 13 countries, of which 11 are member states of the European Union, to which they have added the United States and Japan for the period 1981-1998. The model contains either real manufactured exports or imports as the dependent variable, while the independent variables are similar in both approaches and are composed of: real income, relative prices and real stocks of FDI inflows and outflows. The authors find that, in general, there is a complementary relationship between FDI and foreign trade, due to a positive and significant relationship between the two variables, pointing to efficiency-seeking FDI in these countries. However, for some countries, negative coefficients for FDI stock indicate a substitution relationship.

Damijan et al. (2008) proved that a higher level of FDI contributes to export growth, due to their involvement in the restructuring of the manufacturing sector in CEE countries. Vural and Zortuk (2011) proved the same for Turkey over the period 1982-2009 using the method of least squares (2SLS).
Gurgul and Lach (2012) support in their studies the understanding that decision makers focus on the main objectives of economic policy. Many of them recommend reducing the budget deficit instead of higher economic growth at any cost (accompanied, for example, by higher inflation). However,

according to them, the budget deficit can be reduced, even completely eliminated. On the other hand, many contributors believe that the most important issue is not reducing the budget deficit, but establishing a desired level of growth and the means to maintain it. The main policy objective should be to reallocate resources to investment to expand an economy's capacity and promote exports without reducing the level of economic activity.

In the same study, Gurgul and Lach (2012) show that, in the past, most countries managed to maintain a balanced budget for relatively long periods. However, due to the Great Depression of the thirties and the New Deal (increasing demand through public works and investment) the deficit became one of the most widely used tools of economic policy. The government deficit allows for relatively easy GDP growth in the short term. The accumulated costs of this increase, i.e. the public debt, are paid with a certain delay and staggered over many years in the future. In recent decades, the public deficit has actually been a common feature of all market economies. It can also be seen that economies with a large government sector and high social spending (eg Greece) typically have a larger budget deficit. The public deficit can be financed through state bonds and treasury bonds, credits and loans from abroad and money issuance (the last method being less used at present). The first two ways of dealing with the deficit increase the internal and external government debt. The last way causes the inflation rate to increase.

In general, the motivation to analyze the links between economic growth and budget and trade deficits is much greater in the case of transition economies in CEE. One of the reasons is represented by the fact that this particular group of countries has so far not gained significant attention from researchers. The second reason is represented by the fact that, previous works on the links budget deficit-economic growth-trade deficit did not reach a consensus regarding the directions and signs of the causal dependencies between the examined variables.

Daly and Siddiki (2009) argue that it is much easier to reduce the domestic budget deficit if economic growth is relatively high. The same is true of the trade deficit, especially in the long term. However, in general, reducing the deficit is not an easy goal. It will likely involve cutting back on important programs, raising taxes, and increasing pessimism. On the other hand, the budget deficit supports future growth and enables economic expansion and the realization of important public investments and social programs. Moreover, taxes can remain low, which creates a positive image of an economy in the eyes of investors, especially foreign ones, and attracting investors generally determines the increase in exports. Furthermore, higher growth need not be accompanied by high inflation. During Kennedy's time, i.e. 1961-1963, the US economy grew at 5.3 percent per year with inflation below 1.3 percent.

Using a sample of 20 developed countries, Reinhart and Rogoff (2010) find a negative relationship between debt and economic growth when the ratio of public debt to GDP exceeds 90%. Pattillo et al. (2011) estimate a much lower threshold for the group of 93 developing countries. Debt levels above 30-40% of GDP are starting to hamper per capita growth. Checherita-Westphal et al. (2014) conclude that the optimal debt to GDP ratio for the euro area is around 50% and 65% is for the sample of 22 OECD countries. Baum et al. (2013) perform regression analyzes for 12 euro area countries and indicate that the negative debt-growth relationship occurs when the debt level exceeds 95% of GDP. To avoid reverse causality, Woo and Kumar (2015) examine the impact of initial debt levels on subsequent (5–20 years) real GDP per capita growth in a group of 38 advanced and emerging economies. They found some evidence for the initial debt-to-GDP threshold of 90% having a larger negative effect on future growth. Afonso and Jalles (2013), Herndon et al. (2014) obtain opposite results. They found no evidence that the GDP growth of countries with high debt levels (above 90% of GDP) is different from those with low debt ratios. The results obtained by Panizza and Presbitero (2013), Egert (2015) are consistent with this conclusion. The authors conclude that the presence of the threshold above which the public debt starts to have a negative effect on growth is not robust and sensitive to the analysis period, the countries included in the analysis or other applied modeling methods.

The estimated threshold value above which the impact of debt on growth becomes detrimental varies between 30-95% of GDP and provides little insight into the optimal level of debt. As Panizza and Presbitero (2013) point out, it might be impossible to find a single debt threshold that is valid for all

countries, beyond which economic growth is negatively affected, because a number of factors can influence the impact of debt on growth. The impact of public debt on economic growth also shapes the impact of debt on the trade deficit, regardless of whether that economic growth is based on exports or on consumption that fuels imports.

In the current conditions of the evolution of economic activities, where the need for financial resources is more significant than the volume of existing funds, ensuring the budget balance reflects one of the primary problems faced by most countries recently.

Regarding the increase of the monetary base, without being correlated with the economic growth, it is admitted that the cash inflows will not cover the cash outflows, which otherwise will certainly lead to a budget imbalance. If the efficiency in the economy decreases, then the revenues collected at the state budget will also decrease. The increase in expenses certainly leads to an increased budget deficit if, in the end, they imply a sharp decrease in collected revenues. The increase in secondary expenses for distinct branches of the economy may be due to unpredictable circumstances, such as the erroneous realization of some investments or the futile allocation of budgets intended for the respective branches. In the paper by Neaime (2015) a more in-depth empirical research of fiscal developments in the European Union over the last three decades is illustrated. To examine whether the European Union's deficits and debts are sustainable, an assessment is first made of major fiscal and financial developments in Germany, France, Greece, Italy, Ireland, Spain and Portugal. It finds that some European Union (Southern European) countries could be heading for a debt and budget deficit crisis, which could degenerate into a banking crisis, unless measures are introduced in the near future fiscal adjustment. The last two decades have seen a dramatic and fundamental change in the income and expenditure policies of many developed economies.

Balanced budgets have practically disappeared, and public deficit financing is common practice. This has led to numerous debt crises that have been recorded since the early 2000s. These debt and financial crises of 2008 and their negative effects on several emerging economies have brought major damage to the world economy, stemming from the area of unsustainable financing . long-term.

Following the recent EU debt crisis of 2011-2013 and the global financial crisis of 2007-2009, the solvency of certain EU states has become a major source of concern for the European Union, jeopardizing economic integration, efforts and monetary unification success through the introduction of the euro. It is well known that over the past two decades Greece, Portugal, Ireland, Italy and Spain have run average budget deficits between 10% and 15% of GDP, leading to an EU public debt of over 100% of GDP. As a result, policy makers have introduced various austerity measures to reduce and contain future deterioration of the EU's fiscal position, despite real fears that these measures could collapse aggregate demand, worsen already high unemployment rates and lower prices. low. If domestic prices are depressed by aggressive cuts in wages and incomes, as dictated by the various austerity programs, the real exchange rate will depreciate so that domestic goods become more internationally competitive. While this policy could ease the external deficits of Greece, Portugal, Spain and Italy, it is expected to lead to painful domestic adjustment measures as a significant number of domestic firms will shut down, further worsening the EU unemployment rate. In addition, deflation would also worsen the real burden of public debt in European Union countries. The accumulation of consecutive budget deficits, accompanied by high interest rates, high levels of government spending without sufficient budget revenues led to the accumulation of a huge public debt in the countries of the European Union. According to the study carried out by Molănescu and Aceleanu (2011), the idea is reached that, currently, as is known, many countries face the phenomenon known as the budget deficit. In Romania, this phenomenon has persisted for many years, being one of the most delicate problems faced by economic policy.

The reduction of public debt and budget deficits represents an important section of the budget strategy which is forced to correspond to a fundamental option, in remarkably restrictive economic situations, namely that related to economic progress, and which in turn respects the potential of non-inflationary subsidies of public deficits. In Romania, in the sufficiently difficult framework in which the economic activity is carried out, in the attempt to emphasize the place held by the budget deficit, a special

function is assigned, within the revenues and expenses of the general consolidated budget, to the determination of the weight of the public financial deficit.

Another article, in which the process of sustainable economic growth is explained, is made by Radu (2015), but the purpose of this paper is to analyze the influence of political stability on sustainable economic growth in Romania and to conclude to what extent this political factor is a condition for future and continued sustainable growth in our country. Political stability is of great importance in the evolution of a country because over time it has been identified as a law of economic growth, but it has also been presented as a consequence of faulty economic development. This conviction was strongly demonstrated by the recent economic crisis that had a strong impact on the reorientation of the political context in almost every European country.

Most researchers have concluded that there are at least two directions in which political instability has a negative impact on economic growth. First, it affects market activities and labor relations, with direct adverse effects on productivity. Second, the level of investment will be lower for periods characterized by an unstable political environment. The rule of law is affected in a country where we can see collective violence and revolutions, which translates into a threat to established property rights. This will act as a deterrent to investment. As Kuznets (1966) put it, it is clear that a minimum of political stability is necessary for members of economic society to plan ahead and be assured of a relatively stable relationship between their contribution to economic activity and their rewards. Therefore, we can conclude that stability means a predictable political environment, able to attract investments, both internal and external to the country and to ensure stable labor relations, which will stimulate labor productivity, both effects acting positively in the sense of reducing the trade deficit of a country.

3. **Developments of the foreign trade of CEE countries in correlation with macroeconomic variables**

Gross domestic product (GDP) is the most widely used measure of the overall size of an economy. The global financial and economic crisis resulted in a severe recession in the EU in 2009 followed by a recovery in 2010. The crisis was already visible in the EU-27 in 2008, amid a considerable reduction in the GDP growth rate, which followed by a fall in real GDP of 4.3% in 2009. The recovery at the EU-27 level meant an increase in the GDP index (based on chained volumes) of 2.2% in 2010, with further growth of 1.8% in 2011. Subsequently, GDP decreased by 0.7% in 2012 and in 2013 the variation was negligible, before registering a positive rate in 2014 (1.6%).

Table 1: Annual GDP growth rate in CEE countries (%)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bulgaria	2,4	0,4	0,3	1,9	4,0	3,8	3,5	3,1	3,7	-4,2	4,2
Croatia	-0,2	-2,4	-0,4	-0,3	2,4	3,5	3,4	2,8	2,9	-8,0	10,2
Czech Republic	1,8	-0,8	0,0	2,3	5,4	2,5	5,2	3,2	3,0	-5,8	3,5
Hungary	1,9	-1,4	1,9	4,2	3,8	2,1	4,3	5,4	4,6	-5,0	7,1
Poland	4,8	1,3	1,1	3,4	4,2	3,1	4,8	5,4	4,7	-2,7	5,9
Romania	1,9	2,0	3,8	3,6	3,0	4,7	7,3	4,5	4,1	-3,9	5,9
Slovakia	2,8	1,9	0,7	2,6	4,8	2,1	3,0	3,7	2,5	-4,8	3,0
Slovenia	0,9	-2,6	-1,0	2,8	2,2	3,2	4,8	4,4	3,2	-5,5	8,1

Source: Eurostat data base 2011-2021

Between 2015 and 2018, growth was relatively stable, between 2.0% and 2.8% each year. In 2019, growth slowed, with the EU-27 recording real GDP growth of 1.5%. In the EU, real GDP growth has experienced considerable variation both over time and across EU Member States After a reduction seen in 2009 in all EU Member States except Poland, economic growth resumed in 2010 in 23 states member states, and in 2011, there was also an increase in 23 member states. However, in 2012 this evolution changed, with more than half (14) of the Member States reporting economic growth, while in

the other Member States production fell. Subsequently, the vast majority of Member States recorded growth again, with the number of countries recording a positive rate of change reaching 16 in 2013 and increasing to 23 in 2014 and 26 in 2015 and 2016. All 27 Member States have registered a positive rate of change in 2017 (for the first time since 2007), as well as in 2018 and 2019. The CEE countries with the highest growth rate before the outbreak of the pandemic were Hungary, Poland and Romania. The weakest performers in the region are Slovakia and Croatia (Table 1). If in 2020, all CEE countries experienced economic recession due to the pandemic crisis, in 2021 these economies returned to economic growth, Croatia being the leader of the region. Slovenia and Hungary also had robust growth. On the other hand, the Czech Republic and Slovenia had the smallest growth rates in the region.

In April 2022, Croatia's average annual HICP inflation rate was 4.7%, below the reference value of 4.9%. This rate is expected to rise gradually in the coming months, mainly due to rising commodity prices, increasing inflationary pressures and further worsening supply bottlenecks as a result of the Russian war- In Croatia, the consolidated general budget balance was marginally lower than the reference value of 3% of GDP in 2021, while the share of debt exceeded the reference value of 60% of GDP, but decreased compared to the previous year.

The share of the deficit rose to 2.9% of GDP in 2021, a level that meets the deficit criterion. The share of debt was 79.8% of GDP in 2021, this value representing a decrease from the maximum level of 87.3% of GDP recorded in 2020. The substantial reduction of the share of debt ensured the fulfillment of the debt criterion. The Croatian kuna was included in ERM II on 10 July 2020 at the central parity of 7.53450 kuna to one euro, with a normal Ukrainian fluctuation margin of ±15%.

Table 2: Public debt (% of GDP)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bulgaria	15,2	16,7	17,1	27,1	26,0	29,3	25,3	22,3	20,2	25,0	25,1
Croaţia	64,3	70,1	81,2	84,8	84,3	80,8	77,6	74,3	72,8	88,7	79,8
Czech Republic	39,7	44,2	44,4	41,9	39,7	36,6	34,2	32,1	30,3	38,1	41,9
Hungary	80,4	78,4	77,4	76,7	75,8	74,9	72,2	69,1	65,5	80,4	76,8
Poland	54,7	54,4	56,5	51,1	51,3	54,2	50,6	48,8	45,6	57,5	53,8
Romania	34,0	37,1	37,6	39,2	37,8	37,3	35,1	34,7	35,3	47,3	48,8
Slovakia	43,4	51,8	54,7	53,6	51,9	52,4	51,5	49,6	48,2	60,6	63,1
Slovenia	46,5	53,6	70,0	80,3	82,6	78,5	74,1	70,3	65,6	80,8	74,7

Source: Eurostat data base 2011-2021

In the EU-27, the share of public debt to GDP fell from 79.6% at the end of 2018 to 77.8% at the end of 2019, and in EMU-19 it fell from 85.8% to 84.1 %. The lowest values of public debt as a share of GDP were recorded in Bulgaria (20.4%), the Czech Republic (30.8%) and Romania (35.2%). The largest public debts are in Croatia, Slovenia and Hungary (Table 2).

Total expenditure as a percentage of GDP reached 50.6% of GDP in the EU-27 in 2009 and 50.9% of GDP in the EMU-19. In both areas, total spending as a share of GDP then fell between 2010 and 2011, rose in 2012 and then fell during 2018, rising slightly again in 2019.
In absolute terms, over the period 2011-2018, in both the EU-27 and the EMU-19, total public expenditure grew at a slower pace than total government revenue, thus leading to a decline in the deficit. However, in 2019, expenditure grew at a faster pace than income in both the EU-27 and EMU-19, causing the deficit to widen.

In 2021, the share of public debt to GDP was between 20% and 40% in Bulgaria and reached between 40% and 60% in Poland, the Czech Republic and Romania, exceeding the reference value of 60% in Croatia and Hungary. Regarding the exchange rate criterion, the Bulgarian leva and the Croatian kuna participated in ERM II for most of the two-year reference period from 26 May 2020 to 25 May 2022, at central parities of 1.95583 leva to one euro and 7.53450 kuna for one euro, respectively. The exchange rate of the Croatian currency showed a low degree of volatility, trading at a rate close to its central parity. The Bulgarian leva did not deviate from its central parity. With the exception of the

Romanian leu, the exchange rates of the currencies that do not participate in MARGINAL SOCIAL COST II showed a relatively high degree of volatility.

Table 3: Public deficit (% of GDP)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bulgaria	-2,0	-0,3	-0,5	-5,4	-1,7	0,2	1,2	2,0	2,1	-3,4	-4,1
Croatia	-8,0	-5,5	-5,6	-5,5	-3,5	-0,9	0,8	0,2	0,3	-7,4	-2,9
Czech Republic	-2,7	-3,9	-1,3	-2,1	-0,6	0,7	1,5	0,9	0,3	-6,2	-5,9
Hungary	-5,2	-2,3	-2,6	-2,8	-2,0	-1,8	-2,4	-2,1	-2,1	-8,1	-6,8
Poland	-5,0	-3,8	-4,2	-3,6	-2,6	-2,4	-1,5	-0,2	-0,7	-7,0	-1,9
Romania	-5,4	-3,7	-2,1	-1,2	-0,6	-2,6	-2,6	-2,9	-4,4	-9,2	-7,1
Slovakia	-4,3	-4,4	-2,9	-3,1	-2,7	-2,6	-1,0	-1,0	-1,3	-6,2	-6,2
Slovenia	-6,6	-4,0	-14,6	-5,5	-2,8	-1,9	-0,1	0,7	0,4	-8,4	-5,2

Source: Eurostat data base 2011-2021

The states that record the highest level of budget deficit are Hungary (8.1%), Romania (9.2%) and Slovenia (8.4%), while Bulgaria has the lowest deficit. Romania also had excessive deficits during the crisis and post-crisis years from 2007-2009, as did Poland, Croatia, Slovenia and Slovakia. Hungary, on the other hand, kept its deficit under control from 2012-2019, but with the onset of the pandemic, the budget deficit exploded again. Considering the excessive growth of the budget deficit in the last two years 2019-2020 in Romania, the public debt will also increase, although Romania is among the performers of the region in terms of economic growth, but, like Hungary, based on a large public deficit and a growing public debt in recent years (Table 3).

In 2019, with one exception, all countries analyzed reported that the general budget balance fell within the 3% reference value. An excessive deficit procedure was initiated for Romania in April 2020. Although the share of public debt in GDP exceeds the 60% threshold in Croatia and Hungary, it was on a downward trend until the end of 2019. It is expected that both the share of the deficit , as well as that of the debt to increase in all the CEE countries analyzed as a result of the pronounced slowdown in economic activity and the fiscal measures adopted in response to the pandemic.

Regarding fiscal criteria, only Romania is subject to an excessive deficit procedure (launched in April 2020). Although the budget deficit exceeded the reference value of 3% of GDP in three other analyzed countries – Bulgaria, the Czech Republic and Hungary – in 2021, no new excessive deficit procedures were initiated. After the pronounced increase in 2020 following the COVID-19 crisis, budget deficits remained at high levels in all countries in 2021. Compared to 2020, budget balances improved in 2021 in all countries analyzed, except for Bulgaria and the Czech Republic.

Table 4: Share of CEE countries' exports in EU exports
(annual percentage variation)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bulgaria	0,5	0,5	0,5	0,5	0,4	0,5	0,5	0,5	0,5	0,6	0,7
Croatia	0,2	0,2	0,2	0,2	0,2	0,2	0,3	0,2	0,2	0,4	0,4
Czech Republic	1,3	1,4	1,3	1,4	1,3	1,4	1,4	1,4	1,4	4,7	4,5
Hungary	1,2	1,1	1,0	1,0	0,9	1,0	1,0	1,0	1,0	2,9	2,7
Poland	1,9	2,0	2,2	2,2	2,1	2,1	2,2	2,2	2,3	6,2	6,2
Romania	0,8	0,8	0,9	0,9	0,8	0,8	0,8	0,8	0,8	1,6	1,6
Slovakia	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	2,1	2,1
Slovenia	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,5	0,5	0,9	1,0

Source: Eurostat data base 2011-2021

Between 2009 and 2012, the EU-27 saw a rapid increase in exports, from EUR 1 184 billion to EUR 1 771 billion. Between 2012 and 2016, exports remained relatively stable, but over the next three years, they increased from €1,867 billion in 2016 to €2,132 billion in 2019. Imports followed roughly the same trend as exports; they increased from EUR 1 193 billion in 2009 to EUR 1 666 billion in 2011. Between 2011 and 2016 they remained relatively stable, but in the following three years they increased from EUR 1 602 billion to EUR 1 935 EUR billion in 2019.

The EU-27's international trade in goods with the rest of the world (the sum of exports and imports outside the EU) was valued at EUR 4 067 billion in 2019. Both imports and exports increased compared to 2018, the increase in imports (EUR 27 billion) being lower than the increase in exports (EUR 73 billion). Therefore, the EU-27 trade surplus of €152 billion in 2018 increased to €197 billion in 2019. Intra-EU-27 trade – also measured by exports – grew by 1.5% across the EU-27 between 2018 and 2019. In terms of exports, there was double-digit growth between 2018 and 2019 while only Slovakia (-0.1%) recorded a decrease in intra-EU exports.

The importance of the EU's internal market is underlined by the fact that the level of trade in goods within the EU (exports and imports combined) was higher than that of trade outside the EU (exports and imports combined) for all EU Member States. The share of total goods trade of flows within and outside the EU varied considerably between Member States, reflecting to some extent historical links and geographical location. The highest proportion of commercial exchanges within the EU can be found in Slovakia (79.5%), the Czech Republic (76.6%) and Hungary (75.1%). Hungary and Poland also recorded the largest increases in the share of their exports in total EU exports in recent years, along with the Czech Republic, with the worst performers being Croatia, Bulgaria and Slovenia (Table 4).

The difficult economic conditions of the last two years have also affected exports. If until the moment of the appearance of the corona virus, export trends were increasing according to the data provided by Eurostat, they either had decreasing trends or stagnated, maintaining their value during 2020-2021.

Table 5: Inflation rate in CEE countries (%)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bulgaria	3,4	2,4	0,4	-1,6	-1,1	-1,3	1,2	2,6	2,5	1,2	2,8
Croatia	2,2	3,4	2,3	0,2	-0,3	-0,6	1,3	1,6	0,8	0,0	2,7
Czech Republic	2,2	3,5	1,4	0,4	0,3	0,6	2,4	2,0	2,6	3,3	3,3
Hungary	3,9	5,7	1,7	0,0	0,1	0,4	2,4	2,9	3,4	3,4	5,2
Poland	3,9	3,7	0,8	0,1	-0,7	-0,2	1,6	1,2	2,1	3,7	5,2
Romania	5,8	3,4	3,2	1,4	-0,4	-1,1	1,1	4,1	3,9	2,3	4,1
Slovakia	4,1	3,7	1,5	-0,1	-0,3	-0,5	1,4	2,5	2,8	2,0	2,8
Slovenia	2,1	2,8	1,9	0,4	-0,8	-0,2	1,6	1,9	1,7	-0,3	2,0

Source: Eurostat data base 2011-2021

The inflation rate was clearly higher than the reference value of 1.8%, the EU average in 2019, in Bulgaria, Poland, Romania, the Czech Republic, Slovakia and Hungary, but clearly lower than this EU average in Croatia. Romania and Hungary faced high inflation in 2018 and in the period 2011-2013. The Czech Republic, Hungary and Poland, countries with high economic growth in the region, recorded the highest inflation against the background of the pandemic, and Bulgaria, Croatia and Slovenia had low inflation or deflation in 2020 (Table 5).

As of 2020, CEE countries have seen limited progress due to difficult economic conditions. The crisis caused by the coronavirus pandemic significantly reduced economic activity in 2020, fortunately followed by a visible revival in 2021 in most Central and Eastern European countries. Russia's invasion of Ukraine in February 2022 affected economic growth, with inflation intensifying in all countries assessed. On the price stability criterion, only Croatia recorded inflation rates below or well below the reference value of 4.9%. In the other five countries assessed – Bulgaria, Poland, the Czech Republic,

Romania and Hungary – inflation rates were well above the reference value over the past 12 months, similar to the ECB's 2020 Convergence Report.

In Romania, the annual inflation rate rose to 8.19% in December 2021, from 7.8% in November, according to data published by the National Institute of Statistics (INS). The increase in prices comes in the conditions where non-food goods have become more expensive by 10.73%, food goods by 6.69%, and services by 4.49%, compared to December 2020. Consumer prices in December 2021 compared to November 2021 increased by 0.7%.

The annual inflation rate in December 2021 compared to December 2020 is 8.2%. The average rate of consumer prices in the last 12 months (January 2021 – December 2021) compared to the previous 12 months (January 2020 – December 2020) is 5.1% according to the INS.

In 2022, the annual inflation rate in the European Union continued to increase in April to 8.1%, from 7.8% in March, the member countries with the highest rates being Estonia (19.1%). Lithuania (16.6%), the Czech Republic (13.2%), Latvia (13.1%), Bulgaria (12.1%) and Romania (11.7%), show the data published on Wednesday by Eurostat. Compared to the situation in March 2022, the annual inflation rate increased in 22 member states, including Romania, from 9.6% to 11.7%. In April 2021, the annual inflation rate in the European Union was 2% and in Romania it was 2.7%. In the euro area, the annual inflation rate remained stable at 7.4% in April.

A year ago, the inflation rate in the euro zone was 1.6%. For the euro zone states, the most significant impact on the annual price increase came from energy, where an increase of 3.70 percentage points was recorded, followed by the prices of services, which registered an advance of 1.38 percentage points and food prices which increased by 1.35 percentage points. In the case of Romania, the National Institute of Statistics (INS) showed that the annual inflation rate rose to 13.76% in April 2022, from 10.15% in March, as non-food goods rose in price by 16.35%, food with 13.54%, and services with 7.11%.

Table 6: Interest rate (%)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bulgaria	5,36	4,5	3,47	3,35	2,49	2,27	1,6	0,89	0,43	0,25	0,19
Croatia	6,54	6,13	4,68	4,05	3,55	3,49	2,77	2,17	1,29	0,83	0,45
Czech Republic	3,71	2,78	2,11	1,58	0,58	0,43	0,98	1,98	1,55	1,13	1,9
Hungary	7,63	7,89	5,92	4,81	3,43	3,14	2,96	3,06	2,47	2,22	3,06
Poland	5,96	5,	4,03	3,52	2,7	3,04	3,42	3,2	2,35	1,5	1,95
Romania	7,29	6,68	5,41	4,49	3,47	3,32	3,96	4,69	4,54	3,89	3,62
Slovakia	4,45	4,55	3,19	2,07	0,89	0,54	0,92	0,89	0,25	-0,04	-0,08
Slovenia	4,97	5,81	5,81	3,27	1,71	1,15	0,96	0,93	0,28	0,08	0,07

Source: Eurostat data base 2011-2021

Romania and Hungary, with high inflation, also have high interest rates compared to the rest of the CEE states (Table 6). Regarding the criterion of convergence of long-term interest rates, the lowest 12-month averages of long-term interest rates were recorded in Bulgaria and Croatia. At 2.5%, the Czech Republic was slightly below the reference value of 2.6%. Two of the countries analyzed – Poland and Hungary – recorded 12-month averages of long-term interest rates above the reference value, while Romania recorded a net value above the reference value. In the reference period May 2021-April 2022, long-term interest rates in Croatia averaged 0.8%, below the reference value of 2.6% corresponding to the interest rate convergence criterion. In Croatia, long-term interest rates have been on a downward trend since 2012, with average 12-month rates falling from just below 7% to below 1% (Table 6).

Table 7: Labour productivity – 2010 base (%)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bulgaria	104,7	107,7	108,5	110,2	114,2	118,0	119,9	123,8	127,9	125,5	146,17
Croatia	103,9	105,2	107,8	104,7	105,9	109,3	110,4	110,6	110,4	102,8	110,96
Czech Republic	102,0	100,8	100,4	102,2	106,1	107,1	111,0	113,0	116,1	111,3	119,06
Hungary	102,0	99,7	100,2	99,9	101,5	99,9	102,3	105,4	109,1	106,0	119,3
Poland	104,2	105,4	106,7	108,4	111,3	113,9	117,8	123,5	129,6	126,1	148,4
Romania	104,3	104,9	109,9	113,0	117,8	124,7	130,7	136,5	142,2	139,2	185,9
Slovakia	101,1	102,9	104,4	105,7	108,6	108,4	109,2	111,0	112,6	109,3	116,92
Slovenia	102,6	100,8	100,9	103,3	104,2	105,6	107,5	108,7	109,4	104,4	118,07

Source: Eurostat data base2011-2021

Romania is at the top of the EU member states from the former socialist bloc both in labor productivity growth and in GDP/capita, according to data published by Eurostat.

The +53% increase over the 11 years in labor productivity was double that of the platoon formed by Latvia, Bulgaria, Poland and Lithuania. An important factor was that, unlike Bulgaria's neighbors and the Baltic countries, which chose to practice a fixed exchange rate in relation to the single currency, Romania aligned itself with the practice of Central Europe, where Poland, the Czech Republic and Hungary have a floating exchange rate regime, and Slovakia entered the Euro Zone in 2009.

Romania, Poland, Bulgaria and the Czech Republic are the performers of the CEE region in terms of labor productivity, and Hungary, Croatia, Slovenia are the least placed countries from this point of view (Table 7). After the decrease in 2020 due to the pandemic, productivity increased significantly in 2021 in all CEE economies, the top being dominated by Romania and Bulgaria (Table 7).

4. Conclusions

The basic objective of this research is to study the exports of the Central and Eastern European countries, in the period after 1990 until now, to understand the causes that determined these developments and what were the macroeconomic factors determining the exports trends in the region. Thus, following the analysis carried out, economic policy suggestions can be formulated to mitigate the existing commercial deficits in the area, taking into account the factors with the greatest influence on them.

Analysing the correlations among macroeconomic context and exports developments in CEE area, we can notice that Poland displays the greatest share of exports of total EU exports, because of a high economic growth rate, high inflation, labour productivity, moderate interest rate and low public deficit. Czech Republic, also displays a high share of exports of total EU exports, but a moderate economic growth rate, high inflation and public deficit, moderate interest rate and low labour productivity. Hungary achives a high share of its exports of total EU based on a very high economic growth rate, high public debt and deficit, high inflation, high interest rate, but a low labor productivity. On the other hand, Croatia displays the lowest share of exports of total EU exports, although it has achieved the highest economic growth rate in the region in 2021, but after many years of recession, high public debt and moderate public deficit, low inflation, interest rate and labor productivity. So, these correlations among macroeconomic variables and exports trends show mixed results among CEE countries. Based on a further empiric panel analysis, we can establish the positive or negative relations for the CEE panel as a whole.

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